	Application No.	Applicant(s)
Notice of Allowability	09/749,819	FUKUDA ET AL.
	Examiner	Art Unit	
	Wes Tucker	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment filed 7-14-06*.

2. ☒ The allowed claim(s) is/are *1,3-6, 8-11 and 13-16*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some*   c) ☐ None of the:

        1. ☒ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

    Paper No./Mail Date _____.

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *9-22-06* .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____.

DETAILED ACTION

Response to Amendment

1.   Applicant's amendment filed July 14th 2006 has been entered and made of record.

2.   Applicant did not amend any claims with the initial response. Claims 2, 7 and 12 were previously canceled. Claims 1, 3-6, 8-11 and 13-16 are pending.

3.   Applicant's remarks have been fully considered and are found at least partially persuasive in view of the art rejections. In view of the presented arguments and the Examiner's amendment presented below to overcome potential 101 and 112 1st rejection issues, the claims in their newly amended form are found to be allowable. Reasons for allowance are presented below.

EXAMINER'S AMENDMENT

4.   An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Examiner suggested amendments of a certain nature in order to assure that the claims were enabling and that they recited producing a useful, concrete and tangible result. Specifically the claims were amended to include an output image in response to the recited processing.

Authorization for this examiner's amendment was given in a telephone interview

with Raymond Cardillo Reg. No. 40,440 on September 22nd 2006.

5.   The application has been amended as follows. The entire text of the

amendment as faxed by the Applicant to the Examiner in a proposed amendment of

independent claims 1, 6, 11 and 16 is listed below. Please amend the claims as

follows:

1. (Currently Amended): An image processing apparatus comprising:

an image unit configured to provide image data based on a scanned original

document;

a control unit;

an arithmetic processing unit configured to receive the image data from the

image unit, said arithmetic processing unit including,

        a programmable arithmetic processing section configured to provide

simultaneous processing of plural image data portions,

        a memory configured with a plurality of addressable memory locations,

with each memory location storing image data portions relating to the image data

provided by the image unit,

        a control register section configured to receive control inputs directly from

said control unit outside of said arithmetic processing unit, said control register

section being further configured to provide control register section outputs based on said control inputs, and

a memory controller section configured to be responsive to the control register section outputs to control selection of one data transfer mode from a plurality of data transfer modes available to provide different data transfer operations between the arithmetic processing unit and the memory to transfer the image data portions stored thereat to said programmable arithmetic processing section depending on said simultaneous processing to be performed to produce simultaneously processed image data, said transfer modes including at least a random access transfer mode in which a memory address must be included to access the memory for said data transfer and at least one other data transfer mode; and

an image writing unit arranged to receive and use said simultaneously processed image data to write a second document as a reproduction of said scanned original document.

6. (Currently Amended) An image processing apparatus comprising:

means for providing image data based on a scanned original document control means; and

an arithmetic processing means for receiving the image data from the means for providing image data, said arithmetic processing means including,

programmable arithmetic processing means for simultaneous processing plural image data portions,

memory means having a plurality of addressable memory locations, with each memory location storing image data portions relating to the image data provided by the means for providing image data,

control register means for receiving control inputs directly from said control means external to said arithmetic processing means, said control register means further processing said control inputs to provide control register means outputs, and

memory controller means for controlling selection of one data transfer mode responsive to said control register means outputs, said selection of one data transfer mode being made from a plurality of data transfer modes available to provide different data transfer operations between the arithmetic processing means and the memory for transferring the image data portions stored thereat to said programmable arithmetic processing means depending on said simultaneous processing to be performed to produce simultaneously processed image data, said transfer modes including at least a random access transfer mode in which a memory address must be included to access the memory for said data transfer and at least one other data transfer mode; and

image writing means for receiving and using said simultaneously processed image data to write a second document as a reproduction of said scanned original document.

11. (Currently Amended) An image processing method executed by an image

processing apparatus, said image processing apparatus including a

programmable arithmetic image processing section for simultaneous processing a

plurality of image data portions, each image data portion being digital signals prepared

based on a scanned document image, and a memory having a plurality of addressable

memory locations accessible by a memory controller section to provide image data

stored at said plurality of addressable memory locations as image data portions related

to the scanned document image to said arithmetic processing section as said plurality of

image data portions for simultaneously processing, the method comprising steps of:

receiving data representing said scanned document image;

receiving control inputs directly from a control unit at a control register section,

said control unit being external to said arithmetic image processing section;

processing said control inputs at said control register section to provide control

register section outputs to the memory controller section;

controlling selection of a transfer mode from a plurality of transfer modes

available to provide different data transfer operations between the arithmetic processing

unit and the memory to transfer the image data portions stored in the memory to said

programmable arithmetic processing section depending on said simultaneous

processing to be performed to produce simultaneously processed image data, said

transfer modes including at least a random access transfer mode in which a memory

address must be included to access the memory for said data transfer and at least one

other data transfer mode, said selection being performed by using said memory

controller section under control of said control register section outputs; <u>and</u>

<u>receiving and using said simultaneously processed image data to write a second</u>

<u>document as a reproduction of said scanned original document.</u>

16. (Currently Amended) A computer readable medium for storing instructions,

which when executed by a computer, causes the computer to perform an image

processing method executed by an image processing apparatus, said image processing

apparatus including a programmable arithmetic image processing section for

simultaneous processing a plurality of image data portions, each image data portion

being digital signals prepared based on a scanned document image, and a memory

having a plurality of addressable memory locations accessible by a memory controller

section to provide image data stored at said plurality of addressable memory locations

as image data portions related to the scanned document image to said arithmetic

processing section as said plurality of image data portions for simultaneously

processing, the method comprising steps of:

receiving data representing said scanned document image;

receiving control inputs directly from a control unit at a control register section,

said control unit being external to said arithmetic image processing section;

processing said control inputs at said control register section to provide control

register section outputs to said memory controller section; controlling selection of a

transfer mode from a plurality of transfer modes available to provide different data

transfer operations between the arithmetic processing unit and the memory, said

transfer modes including at least a random access transfer mode in which a memory

address must be included to access the memory for said data transfer and at least one

other data transfer mode to <u>transfer the image data portions stored in the memory to</u>

<u>said programmable arithmetic processing section depending on said simultaneous</u>

<u>processing to be performed to produce simultaneously processed image data</u>, said

selection being performed by using said memory controller section under control of said

control register section outputs; and

   <u>receiving and using said simultaneously processed image data to write a second</u>

<u>document as a reproduction of said scanned original document</u>.

Allowable Subject Matter

6.   Claims 1, 3-6, 8-11 and 13-16 are allowed.

The following is an examiner's statement of reasons for allowance:

Applicant's remarks in view of the amendments were found persuasive with

regard to the structural differences between the prior art of Kan, Venable and

Papenburg. Specifically the combination of these references fail to teach the operation

as specifically claimed for the simultaneous image processing with the explicit control

means claimed as well as the selection of multiple data transfer/access functions.

Further discussion of the distinguishing factors are found in Applicant's remarks.

Therefore in view of the features discussed by Applicant in each of the independent

claims 1, 6, 11 and 16 and the Examiner's amendments discussed above, these claims

and their corresponding dependent claims are all found to be allowable.

Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

Contact Information

7.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Wes Tucker whose telephone number is 571-272-

7427. The examiner can normally be reached on 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Bhavesh Mehta can be reached on 571-272-2214. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Wes Tucker

9-22-06

BHAVESH M MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600